5: Nicolaisen E-4, 5 (1951-1955) 1959
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Pritchard 1940. – Foucauld 1925–30, I–II). 3) As mentioned (p. 113) camel's milk is not well fitted for churning butter, but it can be used as is the case among certain Arab bedouins of the Northern Sahara and according to my investigations possibly also among the Kel Ajjer who live close to Arab pastoralists, and among the Moors (Monteil 1952, p. 73). In most Tuareg groups camel's milk is only occasionally used for butter which is not eaten but employed as a hair ointment. Among some East African cattle breeders butter is also churned for this very purpose. 4) All Tuareg and perhaps all Arab camel-breeders use the stuffed skin of a deceased camel-calf to deceive the mother animal during milking – for camels like cows will not generally yield milk unless their calves are present. This custom is widely distributed among cattle-breeders of the Old World. 5) Camel's urine is considered curative and purifying, although it is not used for cleaning milk bowls or added to milk or butter as among certain East African cattle-breeders. 6) The custom of bleeding living camels to utilize their blood is practised by Tuareg when lost in the desert without water and food. This very custom is also practised by the Tebu and by Arab pastoralists of Arabia. Among the latter camel's blood is apparently used frequently in periods of hunger (Cauvet 1925, I, p. 701. – Finbert 1938, p. 39). This custom may have been more common among camel-breeders previous to Islam which forbids the use of blood. 7) Tuareg camel-calves which are very eager for milk and difficult to wean may be cut in two or three places on the bridge of the nose; the wounds will hurt when the calves try to suckle. On adult animals scars from these wounds will appear as small bumps. They are believed to add to the beauty of riding camels and are nowadays made predominantly for aesthetic reasons. As a means to prevent suckling the same method is also applied to oxen by southern Tuareg, and Mr. Huntingford has informed me that Nilo-Hamites of East-Africa have the same custom. 8) In the south camels are not always branded with a red-hot iron as among the Northern Tuareg and the Arabs. Most Kel Ferouan clans use earmarks cut with a knife, and this is the case of other Air Tuareg, e.g. the Kel Fadei, some of the Ikaskazan, and the Ifadeyen. Earmarks are possibly also used by some of the Moors of the Western Sahara, who still use certain Berber words in connection with camel-breeding (Monteil 1952, p. 103).

Tuareg camel-breeding has traits in common with cow-breeding, and they may be due to historical relations between breeding of camels and cows. The domestication of the camel may have taken place in a pastoral culture similar of the East African cattle complex. In that case the type of dwelling characteristic of camel-breeding may have been a barrel-vaulted hut or tent. Pastoral cow-breeders of Africa and Asia generally use this type of dwelling, and huts or tents of arch construction are extremely common among the Tuareg. Mat-covered arched huts like those of Air are known also to the Kel Geres, some of the Eastern Ioullemmeden, and to other Tuareg further west in Southern Tuareg country – in particular those living close to the Niger (Lhote 1947, p. 71, 79. – Nicolas 1938, p. 62; 1950a, p. 156f. – Barth 1857–58, I, p. 372f., 597f., V, p. 801. – Delafosse 1912, I, p. 334. –

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Fig. 3. Unveiled vassal Tuareg. Ahaggar, the *Ikkın-en-tawsit* tribe.

Fig. 4. Unveiled vassal Tuareg. Tasilé-n-Ajjer.

142 with the French. I have myself never seen a genuine blond Tuareg, but I have met a few albinos though
144 albinism seems to be rare. These observations agree with those of Lhote (1955a, p. 163). All the Tuareg
[143] I have seen had curly or straight black hair, and dark brown or almost black eyes. Many individuals had fairly broad faces with protuding cheeks which gave them superficially a mongoloid appearance,
142 while others had features more like Mediterranean Europeans. In literature the Tuareg are generally described as very tall people. I did not myself carry out anthropological measurements, but will not hesitate to state that in my opinion a great many Tuareg are far from big. Very many adult men in the groups I have visited were considerably shorter than myself (1.73 m). Tuareg men are generally dry
[147] and meagre, bearing the stamp of their roaming life in the desert. Their most outstanding quality is
[157] that of endurance and contempt of hunger and hardship. The appearance of Tuareg women is often quite different – they tend to grow fat. This is probably to some extent due to the fact that married
826 women spend most of their life in the tents and get little physical exercise. But fatness is also a sign
832 of feminine beauty, and some women make a great effort to grow fat by drinking milk or eating
[261] certain fattening plants (cf. p. 177, 178). According to some Tuareg fat women symbolize wealth – large flocks and herds, and much milk – but many Tuareg also say that they prefer fat women because they

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bridge of the nose of a calf, so that it hurts its mother when it tries to suck (Cauvet 1925, I, p. 359). – (3) *akimbab*, that is a plaited muzzle which allows the calf to graze, but prevents it from sucking. I have been told both in Ahaggar and Ayr that such muzzles are used for camel calves, but apparently they do not constitute a normal weaning method. – (4) *asedres* or *ameru* are said to be synonymous terms for the weaning method generally adopted among the *Kel Ferwan* Tuareg of Ayr. The method is as follows:— The upper lip of the calf is pierced on both sides of the harelip so characteristic of all camels. A piece of thin root of the *afagag* acacia (*Acacia Raddiana*) is drawn through these holes so that the ends of the root protude at both sides, and a knot is made at both ends that the root will not fall out. These knots hurt the udder of a she-camel when the calf starts to suck, but this is not the real idea of the device. For the root-piece keeps the pierced holes open and the calf is therefore unable to suck at all.

A she-camel may yield about ten litres of milk at the beginning of its lactation period, but at the end of this period it does not yield more than two or three litres even with good grazing. The yield is always dependent on grazing conditions. Thus during my stay in Ahnet and Ahaggar 1954–55, a Tuareg who owned about twenty she-camels acquired only two litres of milk a day in all from these animals. But conditions of camel-breeding are much better in Ayr and in the southern plains where she-camels are tolerably good milk-yielders most of the year, and camel's milk is therefore very important to some pastoralists of these regions. Camel's milk is drunk and not generally used for food in other ways. It is much esteemed by all Tuareg, who claim that it possesses a particular power and gives strength. It is never stored in the shape of butter or cheese. The Tuareg of Ahaggar and Ayr never eat camel's butter which they consider possesses a poor taste, and, besides, it is very difficult to churn. They make butter of camel's milk only when butter of milk from other domestic animals is lacking for the greasing of the hair. Both in Ahaggar and in Ayr butter is then churned by the men in a rather peculiar way:— A skin bag containing an amount of camel's milk is attached to the riding saddle of a camel which is then ridden at very fast speed for some time. But even with this method, it is said, camel's milk gives very little butter, and it is also definitely stated that the milk cannot be used for cheese-making. These Tuareg statements seem to be confirmed by analyses of veterinaries, who claim camel's milk to contain very little casein, and it has been proved difficult to separate butter from camel's milk (cf. Cauvet 1925, I, p. 707 ff.).

She-camels can mate and yield milk until an age of about 25, and their average length of life is estimated by the Tuareg at about 30 years. But pastoral Tuareg do not generally keep their camels until they die a natural death. In Ayr I was told that she-camels more than twenty years old should be sold or killed. Most Tuareg sell their old camels in the oases of the Central or Northern Sahara where a large population of sedentary farmers is constantly yearning for meat. Very few camels are killed by the butchers of Agadez, where meat from oxen, sheep, and goats is always available and fairly cheap, but a great many old camels are slaughtered at the market places of the oases further north.

Pastoral Tuareg of Ayr very rarely kill their own camels to eat them. They will slaughter a camel which suffers from some severe disease as all animals dying by accident or from disease are unlawful to eat. However, there are also some Ayr Tuareg who will never eat camel's meat. They say that they would feel very sick at heart were they to do so, and some Tuareg even say that they would vomit

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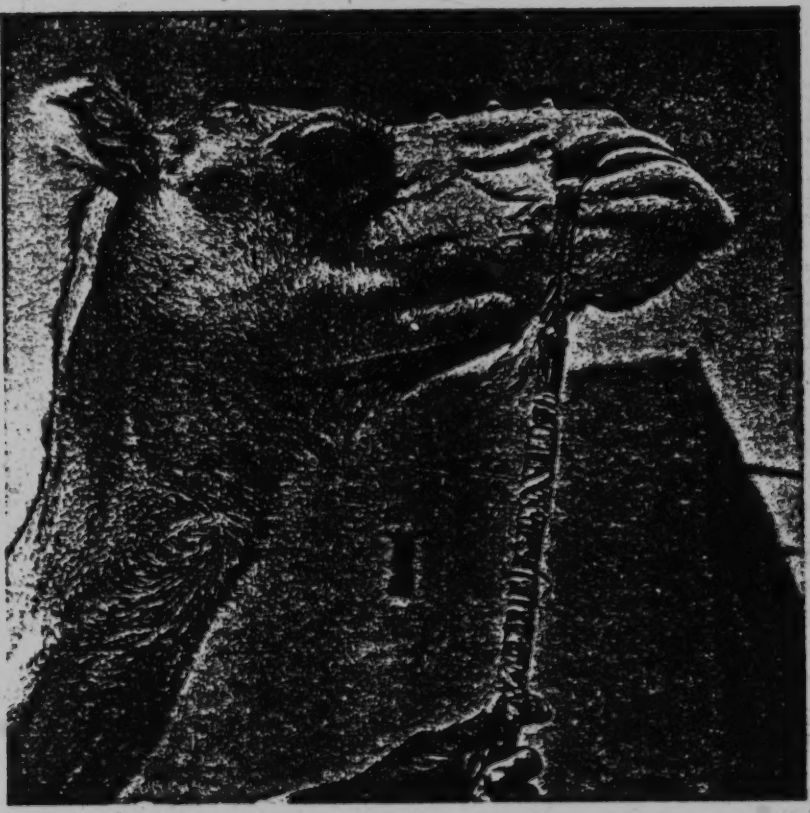

Fig. 43. Riding camel with *ikember*, that is scars from cuts on the bridge of the nose and a hanging patch of skin under the chin. An ornamented leather rein (*tegent*, or *tebsen*) is fastened to the copper ring (*tiljemt*, or *tigrest*) of the right nostril. The camel's colour name is *abereg*. It was my own riding camel – a precious gift from Professor Daryll Forde of the University College London. – Ayr.

262 If they had to eat the meat of camels. I have also been told that all members of certain tribes (e.g., 261 the *Ikerkerren*) will refuse to eat any food served in a receptacle which has once contained camel's meat.

262 I have never heard about Tuareg in the two northern groups who would not eat camel's meat, though most Tuareg in the north consider meat of sheep and goats superior to camel's meat. People of all tribes in Ahaggar and Tasilé-n-Ajjer will eat it, and there seems to be a certain prestige attached

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When Tuareg get lost in the desert and lack water, they bleed their camels and 261
drink the blood (cf. p. 235). In situations of great distress they may also kill their camels in order to obtain the water supply conserved in the animal's stomach.

(3) Treatment by burning. Wounds are cauterized by means of a redhot iron known as *tamak* 232
(Ayr), or *taterkemt* (Ahaggar). Burning with a redhot iron is also practised for camels with swollen feet as already described (p. 121). It is also common to burn a line around wounds or other sites of disease in order that it shall not spread, and burning is even practised for internal diseases, as is the case with the *toza*-disease of camels (p. 121). Redhot irons are, on the whole, used particularly for camels. Wounds of sheep and goats, e.g., wounds from jackal bites, are cauterized by means of glowing camel dung. Certain stomach diseases, such as types of tympanites, are cured by a bunch of flaming grass swept under the animal's belly. I have seen this practised with donkeys which, like horses, may suffer from a kind of tympanites known in Ahaggar as *tahagd*.

(4) Instruments and bandages. Enema should be mentioned under this heading. It is known in 232
Ahaggar as *sebegiwen*, and is applied to humans and to animals by means of a funnel or by a special 757
apparatus made from a piece of hollow cane connected with a skin-bag. I never had the opportunity 913
to see this apparatus, which is depicted by Lhote who also gives some information about the use of enemas with human beings (Lhote 1955a, p. 303, Fig. 36). He mentions that an enema is also given by a mother to her little children by blowing water into the anus with her mouth. I have seen this done to children in Ahaggar, but I do not know whether this method is practised with animals also. Both in Ahaggar and in Ayr the Tuareg apply wooden splints to their domestic animals with broken 232
legs. I have seen this device only in Ahaggar where wooden splints are known as *tifesasin* (sing. *tafasast*). They are used for sheep and goats (Fig. 92), and, by the sedentary agriculturists, also for cows. The wooden splints applied to goats are sometimes replaced by a leather bandage solidly tied 237
around the broken leg. I mention under this heading that camels bred and born in stony or mountainous 492
countries cannot always stand the long journeys through plain and sandy deserts. Their feet suffer

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Fig. 93. Tuareg bleeding a camel at the place of the neck vein known as *abayor*. Ayr, the *Imezzureg* tribe.

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abellenṭaḍ (*Reseda villosa*). Tr., L.M., U.M. Seeds of this plant are edible, but of bad taste – according to Foucauld 1951–52, I, p. 65.

abseṛ (*Acacia Raddiana*). Tr., (L.M.). Fruits are collected mainly for goat fodder, but are eaten by human beings when vegetable food is scarce. The fruit is then crushed into flour. The resin of this acacia is also edible.

tamat (*Acacia seyal*). Tr. The resin (*taymwat*) is edible. I believe it is used mainly as a remedy against stomachache. This is perhaps also true of the resin of the *abseṛ*-acacia mentioned above.

ahtes (*Acacia albida*). Tr., L.M. "La gousse est même comestible pour l'homme" (Maire 1933, p. 120).

ténefé (*Tephrosia leptostachya*). Tr. "Les Touareg mélangent cette plante desséchée au thé vert" (Maire 1933, p. 125).

laḡul (*Alhagi maurorum*). Unknown in Ahaggar, but found in Tasilé-n-Ajjer. "Les racines tuberisées sont mangées par les indigènes (Killian)" (Maire 1933, p. 131).

alora (*Peganum Harmala*). Tr., L.M., U.M. An annual seed-plant. Seeds are used for *tébik*.

taburaḳ (*Balanites aegyptiaca*). Tr., L.M. A tree having edible fruits which are macerated in water to remove the bitter taste.

tedjoq (spelling according to Maire 1933, p. 241) (*Pistacia atlantica*). L.M. Very rare according to Maire (1933, p. 148). According to my own observations the fruit of this tree is eaten by Arab pastoralists (e.g., *Ulad Nail*) of the so-called *daya* region south of the Sahara Atlas. It is possible that it is also eaten by the Tuareg.

tahunek (*Rhus oxyacantha*). Tr., L.M. A tree having edible fruit.

téhaḳ (*Salvadora persica*). Tr. A tree with edible fruit.

tabakat (*Ziziphus lotus* var. *Saharae*). Tr. The berries are crushed and mixed with millet flour.

aẓawa (*Tamarix gallica*). Tr., L.M. "La manne produits par ces arbres est receuillié par les indigènes qui l'emploient comme matière sucrante. (Voinot)" (Maire 1933, p. 156).

tabarekkat (*Tamarix aphylla*). Tr. "Les rameaux mannifères sont employés pour sucrer l'eau" (Maire 1933, p. 159).

tafeltast (*Myrtus Nivellii*). (Tr.), L.M. "Les rameaux de ce Myrte sont récoltés par les Touareg, desséchés et exportés par sac entiers au Soudan et au Mzab, avec l'*Artemisia judaica* ssp. *sahariensis*. Ces deux plantes sont utilisées comme médicaments et comme condiments" (Maire 1933, p. 162).

awkal (*Cynomorium coccineum*). Tr., L.M. A plant yielding edible roots which are dried and ground into flour (cf. Maire 1933, p. 163).

aséyar (*Anethum graveolens*). (Tr.), L.M., U.M. An annual plant. Its seeds are used as a spice and for adding to tea.

takmezzut (*Teucrium Polium*). Tr., L.M. An annual plant used for adding to tea.

élel (*Nerium Oleander*). Tr., L.M. This plant is extremely venomous particularly so for camels, which die from eating its leaves. "La cendre de bois de *Nerium* est employée par les femmes du Tidikelt pour se faire engraisser. A cet effet elles mélangent un peu de cette cendre avec des dattes pilées et du beurre, puis absorbent ce mélange dans du leben" (Maire 1933, p. 170).

ayellachchem (*Solenostemma oleifolium*). Tr. A perennial plant. Its leaves are used as a substitute for tea.

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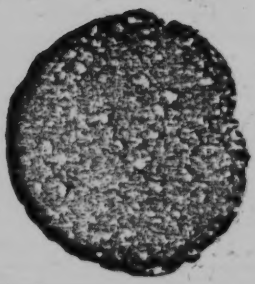

Fig. 126. A cheese-like mass of *adamam* berries (*Osyris alba*). The fresh berries are pounded in the large mortar (*tindé*) or are crushed between two stones to be formed into pieces of cheese form to be dried. This cheese-like mass of *adamam* berries is used by Tuareg women as a kind of face ointment against sun burn, pimples, and the like. They apply this ointment to the face as follows:— A little milk is poured upon a stone, the cheese-like mass of berries is rubbed against it, and the mixture of milk and berries is thereupon rubbed into the skin of the face with the fingers. Ahaggar, the *Dag Rali* tribe. Dimension: 0.075 m. (N.M. G. 5279a).

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262 *enag* (*Leptadenia pyrotechnica*). Tr. A tree with edible fruit.

[272] *tañhart* (*Mentha longifolia*). Tr., L.M. An annual plant. Used as an aromatic for adding to tea.

awit, generally known by the collective name *awihat* (*Salvia Chudaei*). Tr., (L.M.). An annual plant used as an aromatic for tea.

[824] [682] *éfelehleh* (*Hyoscyamus muticus* ssp. *falezlez*). Tr. This plant is extremely venomous for human beings, though not for animals. In the past it was used by the Tuareg as a poison for enemies. Members of La Mission Flatters (1880–81) were poisoned by the Tuareg using poison of this plant inserted into dates presented to the expedition. "La plante, absorbée à petite dose, aurait la propriété de faire engraisser. Les femmes du Tidikelt l'emploient dans ce but, en en faisant cuire une petite quantité dans de l'eau avec de la farine et de la graisse; elles laissent réduire et absorbent la bouillie obtenue, puis se couvrent pour transpirer (Voinot)" (Maire 1933, p. 192).

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252 *ahahel* (*Cistanche Phelypaea*). Tr., L.M. A plant yielding edible roots. After drying the roots are pounded in a large millet mortar to be used for bread which is much esteemed by the Tuareg. "Cette plante est recoltée jeune par les indigènes, puis placée dans le sable sous une couche de *drinn* (*Aristida pungens*) jusqu'à noircissement et dessication. Le produit sec est moulu et utilisé dans l'alimentation (Voinot)" (Maire 1933, p. 196).

éfetekchi (*Orobanche aegyptiaca & O. cernua*). Tr., L.M. A plant yielding edible roots.

tamzellit (*Orobanche sp.*). Tr. Very rare. A plant yielding edible roots.

teğellet (*Colocynthis vulgaris*). Tr. Seeds are eaten after boiling and drying.

alkeḍ (*Cucumis pustulatus*). Tr. Rare. Seeds are eaten after boiling and drying.

[263] *takkit* (*Cotula cinerea*). Tr. "Les Touareg utilisent cette plante comme condiment, principalement pour la viande qui commence à se gâter" (Maire 1933, p. 209).

[439] *téhereğğelé* (*Artemisia judaica* ssp. *sahariensis*). Tr., (L.M.). "Cette plante, comme le *Myrtus Nivellei*, est récoltée en grande quantité, séchée et exportée au Soudan, où elle est employée comme aromate et condiment" (Maire 1933, p. 212).

[272] *zézzeré* (*Artemisia herba alba*). (Tr.), L.M. Used as an aromatic for adding to tea.

Caravan Trading

Caravan trading of the Sahara has suffered severely from the European colonisation of Northern Africa. The establishment of ports and railways in the Sudanese area and the abolition of the slave-trade have brought to an end the large caravans passing through the desert. In recent times another heavy blow has been struck against the caravans, for transportation is more and more taken over by trucks which can easily pass through the open desert country. Many pastoralists of Northern Africa suffer from the decline of their trade, which for centuries has been an important stabilizing factor for their subsistence. The decline of caravan trading is also strongly felt in the oases, which have played a very important part as trading posts or trading stations. Some of these oases have far fewer inhabitants nowadays than in the past, and it is most difficult for many sedentary people of the oases to exist. The decline of the trade has been felt also among the pastoral Tuareg. But caravan trading is still important to most of them, and many of them could not support life without it. To understand the important role of caravan trading we have once more to return to the economic values of subsistence activities.

CARAVAN TRADING OF THE AHAGGAR TUAREG

The Ahaggar Tuareg cannot live exclusively on stock-breeding products all the year round – not even in good years when annual pasture is well developed in autumn and early winter. Even in a good year the nomads mainly eat vegetable food throughout the hot season, and some bread or porridge is also consumed during the period of abundant milk yields. It is true that nomads can subsist entirely on milk for long periods, and that some people do so for weeks or even months. Galan says that pastoralists of of Ahaggar, when they live entirely on milk, can do with four litres a day per person (Galan 1951, p. 231). But it is estimated by the Ayr Tuareg that they need about eight or ten litres a day to live entirely on milk, and they all claim that they get weary from constant milk drinking. They say that though they do not feel hungry when they live exclusively on milk they experience a peculiar, unpleasant feeling in the stomach. The relative importance of stock-breeding products (mainly milk) and vegetable food (mainly wheat, millet, and dates) may be seen from the diagram Fig. 151.[1] In a good year there is normally some possibility of collecting wild seeds for bread and porridge, but the Tuareg claim that they cannot easily cover their need of vegetable products even in a year when milk is abundant. And milk is not always abundant. We can estimate that for two or three good years

[1] [cf. p. 216] [p. 209]

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tions have remained important to the Ahaggar Tuareg, and it is clear that they would not go on trading were these expeditions not profitable, for trading expeditions are extremely strenuous. Though the expeditions set off when the extreme heat is decreasing, it is still very hot in the extensive barren plains in autumn and in winter during daytime. Water and pasture are often extremely scarce in this deserted country, and the Tuareg frequently have to travel rapidly. For days or weeks they live so to say on their camels, and if camels are not too heavily loaded they may do up to 16 hours a day for several days in succession. Under such journeys the Tuareg eat only once a day. Obviously such trading expeditions are also very hard on the pack-camels, and there is always a risk of loosing a camel during such journeys through barren, desert country.

In this brief outline of caravan trading I have not considered those Ahaggar Tuareg living constantly in the Tamesna plains and adjacent regions. These Tuareg own more livestock than the Tuareg of the Ahaggar Massif, and I do not believe that they engage so much in extensive trading expeditions. They are comparatively rich in she-camels which are tolerably good milk yielders in these regions most of the year, and milk is more important as food than it is in Ahaggar. I believe that most Ahaggar Tuareg of the Tamesna region acquire their necessary vegetable products by selling surplus livestock, butter and cheese at the markets of Ingal and Agadez.

CARAVAN TRADING OF THE AYR TUAREG

Among the Ayr Tuareg stock-breeding products are far more important for food than in the north. Grazing conditions are better with annual pasture as a recurrent event, and the Tuareg keep bigger flocks of goats and sheep, larger camel herds, and most have a few zebus which are guarded without much difficulty. The *Kel Ferwan* Tuareg of Southern Ayr can live on milk for a large part of the year, though they, like those of Ahaggar, become tired of milk drinking if they get no solid food. There are Tuareg of Southern Ayr who live exclusively on milk for two or three months during the periods of *akasa* and *rarat* and to whom milk is important as food for at least six months. In the extremely hot season of *ewilen* when milk is very scarce most Tuareg eat millet porridge with a little milk or sauce (cf. p. 242 f.), and Tuareg who are not very wealthy eat millet porridge to a great extent all the year round, so that the necessary amount of millet for many camps is about 0.5 kilo a day per person, or about 180 kilos a year. In Ayr there are fairly good possibilities of collecting if there are not too many locusts, but most Tuareg do not collect a great quantity of wild seeds, and claim that they would be very badly off without millet, as seeds of wild plants are not very nourishing in comparison. In one year during the second world war (in 1943) they say that millet was very hard to get; it was then very difficult to subsist and a great many animals had to be killed for food. Millet is almost indispensable to the Tuareg; they also consume other vegetables derived from agriculture, notably wheat, maize, and dates, but millet is the most essential non-nomadic food product. Normally it can be acquired by most Ayr Tuareg without much difficulty.

The people of Ayr obtain their provisions of millet from the Sudanese area of shifting cultivation, notably from Damergu (Tanut). Millet can also be bought at Agadez whereto it is brought by Tuareg

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up with small stripe of fat. The pieces of liver covered with fat are put on a slender iron or wooden rod to be roasted slightly over the fire. This dish is known to all Tuareg by the Arabic word *chuchif*. It was introduced among the Northern Tuareg by the Arabs, but is not widely known among the Ayr Tuareg.

This brief description of Tuareg meat preparation can adequately be supplemented by a reference to two peculiar dishes:— (1) A dish known to the Ahaggar Tuareg as *talebeggat*. It consists of meat which after boiling or roasting is pounded in a large mortar and frequently served with liquid butter. This dish is also known to the Ayr Tuareg. (2) A dish which is described from Ahaggar by Foucauld under the name *aboughor*. It consists of untanned skin which is eaten in case of hunger after the following preparation:— Untanned skin from household implements, shields, and the like is roasted under the ashes, and is thereupon pounded into small pieces. These are eaten without any further preparation, or after boiling. (Foucauld 1951–52, I, p. 73).

Like other North African peoples the Tuareg dry meat of domestic animals and of game. The people of Ayr know three distinct drying methods, namely (1) *iwesan*, that is meat which is boiled until it is free of blood; it is dried in the shade; (2) *tikelsin*, uncooked meat cut into pieces to be dried on a string in the shade; (3) *kulez*, uncooked meat cut into stripe which are dried for some time to be treated with salt and various spices. This last method is not practised among the Tuareg of Ayr, but by sedentary people of Agadez and by Negroes further south in Damergu. The Ahaggar Tuareg generally boil or roast the meat before drying; meat roasted in the ashes according to the *aburul* method and thereupon dried is known as *takasa*. I do not know whether the Ahaggar Tuareg also practise the method of drying raw meat like the Ayr Tuareg, but the dried *agezzerem* lizzards which they take to Tidikelt on trading expeditions, are dried uncooked. Furthermore, the method of drying raw meat is known elsewhere in the Northern Sahara, and I have myself seen it practised among the Berber-speaking *Chawiya* of Aurès.

I conclude the description of Tuareg meat preparation with a brief note on the use of blood of living

Fig. 166. Wooden double-vessel (*azur*) to contain water and butter for greasing the hair. Similar containers with a third vessel for fine-grained sand are also found among the Tuareg. Made by blacksmith from wood of the *taburak* tree (*Balanites aegyptiaca*). Geometrical ornaments are produced by burning with a hot iron. Ahaggar, *Ahl Azzi* Arabs at Tamaqraret. Dimension: 0.241 m long. (N.M. G. 5886).

[text continues on p. 235]

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into fine-grained sand carried from the river bed to the fire place in front of the tent. When this heavy fire has calmed down the embers and most of the ashes are moved from the shallow depression to its fringes by means of a small stick, and the thin porridge or gruel of flour and water to which also a little salt is added is poured out into the depression, a spoon being normally used to remove all the gruel out of the wooden bowl in which it has been stirred. A bunch of dry grasses, herbs, or tender twigs is thereupon fired over the gruel in order that its surface may harden, and it is then covered with hot fine-grained sand, ashes, and embers in the order mentioned. If the embers are considered insufficient for baking, a small fire may be lit on the top of the sand and ashes covering the gruel-bread, which is taken out after about twenty minutes to be turned and baked in the same way on the other side for a few minutes. Baking is then finished, the bread is finally removed to be washed in water (Fig. 183). It is broken into pieces and eaten from a large wooden bowl (Figs. 195a–b) together with liquid butter. It is eaten with wooden spoons (Figs. 191).

The type of bread just mentioned is known to people of the *Kel Ferwan* group as *tugella*. It is made by very few Tuareg. Indeed, when I travelled together with Ayr Tuareg I very frequently baked my own bread as I had learned to from the Tuareg of Ahaggar, because very few of the Ayr Tuareg I met were familiar with bread baking. Bread is not a staple diet of the Ayr Tuareg, and when they want to bake wheat flour they generally do so in the following way:— The flour is mixed with water to a dough which is placed upon the bottom and sides of a metal pot heated over the fire. This type of bread or bread-like dish is known to the *Kel Ferwan* Tuareg as *gurasa*. It can be mentioned that the *Kel Ferwan* Tuareg also bake a particular type of bread from millet flour mixed with certain other plant materials, but a bread of this kind is not baked for ordinary food, but as a kind of medicine.

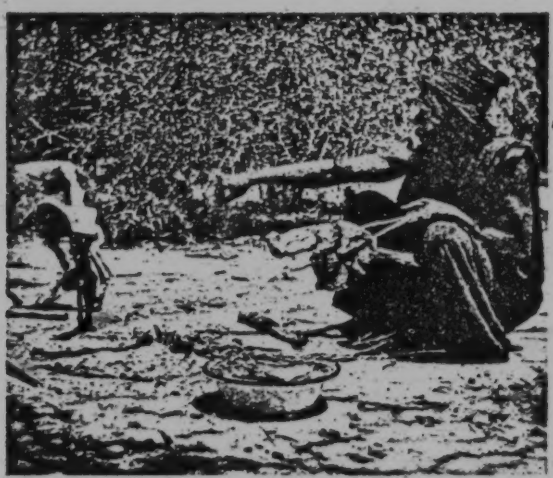

Fig. 174. Roasting meat-lumps by the *mechwi* method. Ayr, *Echchikhou* Tuareg of Damergu.

[text continues on p. 241]

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Fig. 177. The large millet mortar (*tindé*) with its heavy wooden pestle (*ahoyen*). It is used almost daily for pounding millet in the camps and it is used also to pound other cereals, dates, and even meat. Mortars of this type are manufactured in Southern Tuareg country by blacksmiths. The specimen depicted is made of wood from a tree growing in the Sudan and known to the Northern Tuareg as *tuyia*. Introduced to Ahaggar from Zinder, the *Dog Rali* tribe. Dimension of the mortar: 0.445 m high, 0.299 m in diameter at the rim. Dimension of the pestle: 1.255 m long. N.M. G. 5224a–b.

Fig. 178. Little mortar (*tindé*) with a short wooden pestle (*ahoyen*). Manufactured from wood of *absef* (*Acacia Raddiana*) by a blacksmith of Tamanrasset. Ahaggar, *Hoggar* of Tarhawhawt. Dimension of the mortar: 0.230–0.235 m high, 0.170–0.180 m in diameter at the rim. Dimension of the pestle: 0.350 m long. (N.M. G. 5838a–b).

It is called *ékanef* and is baked in the following manner:— The millet flour is mixed with juice of *tadent*-berries (i.e., berries of *Boscia senegalensis*) and also with certain medicines unknown to my informants who said they were of Sudanese origin. This mixture is made into a solid dough with a very small content of water, and is baked in the sand where it is covered with hot sand, ashes, and embers in the same way as the bread type known as *tagella* (*tajella* in the north).

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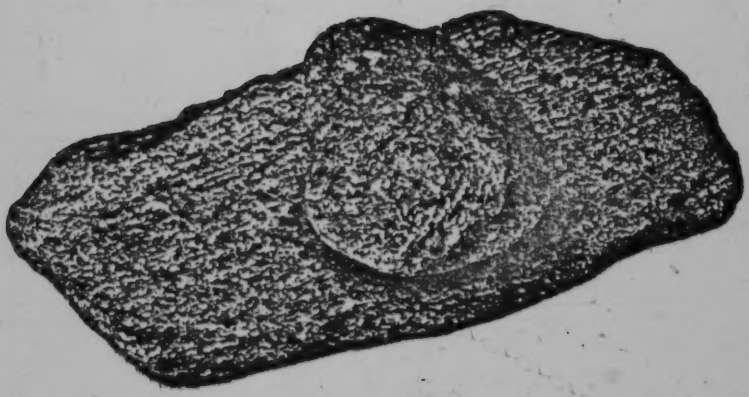

Fig. 179. Simple saddle quern (*tchunt*) of two natural stones: (a) the lower part called *tekunt*, (b) the upper part called *azzed*. It is used for grinding cereals. Ahaggar, the *Aguh-en-tehlé* tribe. Dimension of the lower stone: 0.360 m long. Dimension of the upper stone: 0.115 m. (N.M. G. 5839a–b).

261 This *ékanef* bread is eaten exclusively by women who claim that it gives them a good appetite and makes them fat.

262 Millet porridge is a common dish among the Ahaggar Tuareg, and it constitutes by far the most important vegetable dish to the Ayr Tuareg and the sedentary agriculturists of the south. Millet 252 porridge is known in Ahaggar as *esink* in Ayr as *echink*. The preparation of millet porridge involves much strenous work as follows:— (1) An amount of millet seeds is poured out into the large wooden mortar (*tindé*, p. 235, fig. 177). A littlewater is added to the seeds which are then pounded for about * 1413 ten minutes. The seeds thus pounded are then poured out into a plaited bowl (*tabeyka*; Fig. 185) or another receptacle to be winnowed. This process is done by shaking the plaited bowl itself, and by pouring small quantities of the pounded seeds from the bowl into a plaited tray (*téseyt*; Fig. 184) which is better fitted for winnowing byshaking. The husks or pods covering the seeds are thus taken away by the wind. (2) When the pounded seeds have been cleaned or winnowed in this way they are replaced in the wooden mortar, and water is again added. The seeds are now heavily pounded for about half an hour, and most of them are turned into flour after this process, but a small amount of seeds remains unpounded. The mixtureof flour and unpounded seeds are poured out into the plaited

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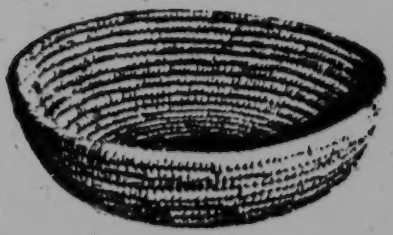

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Fig. 185. Tray or bowl *,tabeyka* – perhaps not correctly spelled). It is used for winnowing, and it serves as an eating bowl and a drinking bowl as this container is watertight. Coiled basketry of date palm leaves (*afam*). Made by Tuareg woman. Ahaggar, the *Dag Ɣali* tribe. Dimension: 0.205 m in diameter. (F.M. 263).

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Fig. 186. Pot (*talekkiat*) with a single handle. Manufactured by *Ḥarratin* women in Ahaggar, the *Afuka-tehili* tribe. Dimension: 0.18 m high. (F.M. 172).

in a mortar with a little water to a soft dough to which a little cheese, butter, or milk is added before eating. If a large quantity of milk is added this dish is known as *tarkit*. The Ahaggar Tuareg, as mentioned (p. 167), also pound dried dates with locusts to make a dish eaten by women who wish to grow fat.

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The Arabs and the Arabic-speaking agriculturists of Tidikelt (the *Ḥarratin*) have introduced among the Northern Tuareg the well-known North African dish generally called kuskus. The dish is known to the Tuareg as *keskesu* which is also Arabic by origin. But this dish is not the staple diet among the Northern Tuareg that it is among the Arabs and the Berbers of the Atlas. It is eaten mainly on festive occasions, and there are many Tuareg women who even to-day do not know how to prepare it. The *keskesu* dish is preferably made from wheat flour, though barley flour may also be used. The cereals are ground with hand-mills or quern stones (saddle querns), and the flour is rolled into very

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Fig. 192. Tuareg woman cooking millet porridge. Ahaggar, the *Ajjak-n-rahi* tribe. The cooking pots seen on this photograph are bought in the Sudan on trading expeditions. Sudanese pots are superior to those made in Ahaggar.

Like

264 most Tuareg dishes they are eaten from a large wooden bowl. If meat is cooked with the soup it may be broken into small pieces to be eaten with the balls, but part of the meat cooked is always eaten separately. The Tuareg eat *keskem* with spoons, but if spoons are lacking they also eat it with the 262 hand, as do the Arabs. In addition to *keskesu* with its small balls which resemble grains of rice, the Northern Tuareg have another dish prepared in the same way but with larger balls. It is termed 288 *tikhemmezin* and is considered inferior to the *keskesu*. – Both these dishes are unknown to the Ayr Tuareg of the *Kel Ferwan* group.

262 Two particular dishes are mentioned from Ahaggar by Foucauld. One of them is called *ibergan* 252 and consists of unripe barley boiled in its own juice without water. The other one is known as *aberbez* 247 and is made from tender plants of wheat and barley which are dried and pounded or ground into powder, to be eaten, boiled or unboiled, in periods of famine (Foucauld 1951–52, I, p. 89, 118).

Tuareg vegetable dishes are frequently prepared in a very simple way. Thus there is a dish known as *tuwa* (Ahaggar) or *tewa* (Ayr) which consists of entire seeds of millet or sorghum boiled in water. It is eaten mainly by children who frequently walk about the camp eating these boiled grains from their hands.

252 *415 It is clear from the description of vegetable dishes that the cooking pot plays an important role for food preparation, and all dishes prepared in this way, including cooked meat, are known to the Tuareg

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233 177 traits are found among the Northern Tuareg and partly among the *Iwllemmeden*, while they have not generally been adopted by the *Kel Ayr* and the *Kel Geres*. It is most interesting in this connection that when they wish to speed up their riding camels the Northern Tuareg use a sound identical with that used among the Arabs, while the Tuareg of Ayr use a very different signal (p. 136).

The Arabs only partially influenced Tuareg camel-breeding, for this was well-established in North 233 171 Africa before the Arab invasions. There is no doubt that certain traits of camel-breeding are known to most pastoralists who breed the one-humped camel. Such traits may well have been introduced to North Africa with the Arabs, but they were most probably also known to North Africa camel-breeders before the Arabs arrived. Among such traits universally known to camel-breeders, the following can be mentioned:—

Milking with the dummy-calf. This seems to be practised among all Arab pastoralists of the Peninsula; it is frequently described, in modern literature about this area, and is mentioned as well in ancient Arabic poetry (cf. Cauvet 1925–26, I, p. 355). The custom is known to Arabs of the Sahara and, according to Monteil, also to the Moors (cf. Monteil 1952, p. 72). I have mentioned above that the dummy-calf is used for milking camels among the Northern Tuareg and in Ayr, and according to Nicolas the custom is also practised among the *Iwllemmeden Kel Dennek* (Nicolas 1950a, p. 140).

Perhaps a milking method universally known is that of patting the udder. I have recorded this method from Ahaggar, from Ayr (p. 57), and from Arab pastoralists of the Sahara (e.g. the *Ulad Ba Ḥammu* and the *Chamba*). I have not been able to find much information about this method in literature, but it is possibly this to which Thesiger refers in his description of camel milking in Southern Arabia (cf. Thesiger 1959, p. 145).

A method of which there is also very little information is that of weaning calves by cutting them on the bridge of the nose in two or three places. I have noted it from the *Kel Ahaggar*, the *Kel Aïr*, and the *Kel Ayr* and from pastoralists of Arab tribes such as the *Ulad Ba Ḥammu*, but have not seen it among Arabs in the borderlands of the Atlas and the Sahara. I have also noted the existence of this particular method among the *Kel Tahabanat* of the *Western Iwllemmeden*, but it is not mentioned by Nicolas from the *Iwllemmeden Kel Denek*, though he states that it is known among the *Kunta* (Nicolas 1950a, p. 141). In certain parts of North Africa a cut on the bridge of the nose of camel calves is given one or two thorns. These sting the mother camel when the calf tries to suck and the mother camel therefore kicks the calf away. The method is described from In Salah by Cauvet, while Nicolas mentions it from certain Arabs and *Iforas* Tuareg (Cauvet 1925–26, I, p. 359; Nicolas 1950a, p. 141). A related method is known to pastoralists of Arabia [illegible] a little pointed stick is tied to the head of the calf to prevent it from sucking (cf. Cauvet 1925–26, I, p. 359).

261 171 A very interesting custom, perhaps also a very ancient one, is that of using the blood of living camels for food. Among the Tuareg, blood of living camels is drunk only when water is lacking during camel expeditions in the desert (cf. p. 235). The bleeding of camels to utilize their blood is also practiced among the Tebu (Huard & Charpin 1960, p. 195), and among the bedouins of Arabia it seems as though camel's blood is consumed regularly for food. Doughty describes how Arab bedouins boil camel's meat in broth and blood, as they are unaware that the Koran forbids the use of blood for food (Doughty ed. 1926, I, p. 561). A good description of the use of blood of living camels as food among

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Arab bedouins is given by Finbert:— "Dans les jours de disette, on pulvérise les ossements de la carcasse, et bien que l'Islam interdise l'usage du sang, on l'y mêle en le recueillant d'une veine que l'on ouvre à un chameau. De ce mélange on fait une pâtée que l'on dévore. En cas de famine prolongée, on mange de la corne moulue avec des trayons macérés dans du sang. Le sang lui-même, toujours pris sur l'animal vivant, est versé dans des boyaux qui sont ensuite grillés comme du boudin" (Finbert 1938, p. 39). It is very possible that the custom of bleeding live animals for food has once been widely known among many people of the area now dominated by Islam; thus Ibn Batutah mentions a Turanian people among whom blood of live horses is used for food (Ibn Batutah III, p. 24).

Among the Tuareg a certain medical value is attached to camel's urine (p. 127), but they do not wash in it as do many Arab bedouins of the Peninsula. A conception of camel's urine as something clean seems to exist among many camel-breeders, and Thesiger mentions that bedouins of Southern Arabia wash their hands in camel's urine before milking (Thesiger 1959, p. 145).

It is evident that some traits of camel-breeding resemble customs known also to African cattle-breeders, and it seems as if these customs are widely found among people who breed one-humped camels. – Certain traits of camel-breeding are peculiar to the Tuareg and a few adjacent peoples.

In contrast to all other camel breeding peoples the Tuareg and some adjacent peoples have riding saddles that they place in front of the camel's hump (p. 78 ff.). The common saddles are those known as *térik*, comprising the two main types named *tawzak* and *tekokeyt*, the most developed riding saddles among the Tuareg. These saddles are also used by some of the Northern Arabs, notably the *Ulad Bu Ḥamma* and the *Chambo* who import them from Southern Tuareg country – particularly from Agadez where the best saddles are made. The *térik* saddles with a cruciformed pommel are quite peculiar to the Tuareg.

The Tuareg saddle known as *ahyas* or *tahyast* (Fig. 63) resembles the *térik* type in that it is also placed in front of the camel's hump, so that camels are ridden in exactly the same manner as with *térik*-saddles. The *ahyas* type is not mentioned from the *Kel Dennek* Tuareg. But it is extremely common among the *Western Iwllemmaden* and is said to have originated in Aḍraṛ-n-Foras. Further west among the Moors, a riding saddle somewhat resembling the *ahyas* type seems to form the common type. It differs from the *ahyas* mainly in that it has a very low pommel and a very broad and deep seat. Several specimens of this Moorish saddle type are found in the Musée de l'homme in Paris (e.g., nos. D. 33.24.14 & 34.76.15). These Moorish saddles are placed in front of the hump like all Tuareg riding saddles, but I have been told that owing to their peculiar structure the riders cannot generally reach the camel's neck with their feet, so that they ride more bumpily and less steadily than the Tuareg, who secure their position by stemming their naked feet against the camel's neck. This is also seen from photographs of camel riders from Mauretania (cf. Puigaudeau 1945, ill. p. 128–129).

The *térik* and *ahyas* saddles are always made by blacksmiths, and this is probably also the case with the Moorish riding saddles. But as mentioned above (p. 82 ff.) the Tuareg of Ayr make certain primitive riding saddles themselves, and these, called *kantarki* or *delobi*, are perhaps the prototypes of the more developed saddles made by the blacksmiths. Tuareg riding saddles for camels do not seem to have been introduced to Africa by the Arabs of the Peninsula where such saddles are unknown. The use of a single rein attached to a metal ring fixed in the right nostril of the riding camel is perhaps

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172 namely the cylindrical house with a conical roof, which seems to have constituted the original type of dwelling of many northern vassals. This dwelling type has a world-wide distribution among primitive agriculturists (cf. Birket-Smith 1948, p. 313), and we know that it was used in North Africa in antiquity. Hut-circles with heavy walls from predynastic cultures near Badari may perhaps be considered remains of such dwellings (cf. Brunton & Caton-Thompson 1928, p. 44 ff., 82 ff., pl. LXVI).

174 We might perhaps assume that culture as it existed among the ancestors of Tuareg vassals before the introduction of the camel was influenced by agricultural traits, and it would not be unnatural to advance the theory that it derives from a mixed farming culture. However, there can also be little doubt that we find in Tuareg culture features that are extremely old and probably date back to a hunting culture. It is of particular interest that the Tuareg have preserved very primitive methods of food preparation which are not generally known to true agriculturists (e.g., cooking with hot stones). I believe that the existence of such simple methods may be an indication that the culture is related to ancient hunting and collecting cultures. It is also very difficult to reject the possibility of a connection between hunting and the domestication of animals, for we have seen above that the Tuareg even to-day catch wild donkeys for domestication, and that, in the Middle Ages, they most possibly hunted these animals in order to utilize their meat and skin before the introduction of Islam which made
175 donkey's meat unlawful. It seems as if donkeys and asses have been important food animals throughout
171 the Near and Middle East even after the advent of Islam for we not only have Leo Africanus' state-
[261] ment that the nomads of the Sahara consume the meat of donkeys caught in snares (Leo Africanus II, p. 944), but Duveyrier's statement that the Tuareg of Tasilé-n-Ajjer catch donkeys in traps to utilize the skin (Duveyrier 1864, p. 231), and the fact that the Tuareg of Ahaggar even very recently have eaten donkey's meat in case of famine. There is information in literature which indicates that donkeys and asses have been commonly eaten elsewhere. Ibn Khaldun says that donkeys and horses were eaten by Algerian town-dwellers in case of need during the Middle Ages (Ibn Khaldun III, p. 377 f.), and Ibn Batutah states that Arabs of Oman consider donkey's meat lawful (Ibn Batutah II, p. 229). Ibn Batutah also says that meat of asses was eaten by the people of Suakin (Ibn Batutah II, p. 162), and we know that even up to modern times the Beja have hunted asses in order to consume their meat (Baker 1867, p. 55 f.; Murray 1935, p. 125). There is no information about the hunting of asses or donkeys for domestication among the Beja, but it is reported by several authors that members of this group leave their domesticated mares where wild asses are common in order that they shall mate with wild stallions (Heuglin 1869, p. 280; Bland-Sutton 1911, p. 188 f.; Murray 1935, p. 125).

174 We cannot discard the possibility that the domestication of donkeys originated from hunting, and it seems as though the donkey was first domesticated in Africa, where the wild ass still exists. When the domestication took place we do not know, but we are aware that domestic donkeys have been used in Egypt and in Asia (Ur) as early as 3000 B.C. (cf. Antonius 1922, p. 266; Hilzheimer 1930, p. 477). The donkey played a most important rôle in Ancient Egypt where it even had military importance (cf. Erman 1922, p. 592 f., 636, Figs. 207 & 208, pl. 36).

As to the domestication of other animals, we do not know how they were first tamed, and it has generally been overlooked that though there may perhaps be a connection between certain hunting